

CLAIMS

1. A method for a context transfer in a communication network comprising a plurality of heterogeneous access networks (220, 221, 222, 620, 621, 622), wherein a mobile terminal (207) is attached to one of the access networks, the method comprising the steps of:

receiving location information (501) at a context transfer manager (200, 600),

determining by the context transfer manager (200, 600) neighboring access networks (502) for the mobile terminal (207) based on the location information,

generating by the context transfer manager (200, 600) at least one context (503) for the neighboring access networks and the mobile terminal (207),

transmitting by the context transfer manager (200, 600) a context (504) to each of the neighboring access networks (220, 221, 222, 620, 621, 622) and the mobile terminal (207),

wherein the generation of the at least one context (304) is based on capabilities and parameters associated to the mobile terminal (207) and capabilities and parameters of the neighboring access networks (220, 221, 222, 620, 621, 622) taking into account the respective access technology, and

wherein the context transfer manager (200, 600) common to the plurality of heterogeneous access networks (220, 221, 222, 620, 621, 622) in the communication network performs the context transfers related to said mobile terminal (207).
2. The method according to claim 1, further comprising the step of the mobile terminal (207) receiving at the mobile terminal (207) a beacon signal indicating the presence of another access network, performing a handover from the current access network to the new access network from which the beacon signal is received.
3. The method according to claim 1 or 2, wherein the context (304) generated for each of the neighboring access networks (220, 221, 222, 620, 621, 622) and the mobile terminal (207) comprises a static or temporary identifier of the mobile terminal (207).

4. The method according to claim 3, wherein the static or temporary identifier is used by a context manager (209, 210, 211, 609, 610, 611) in the new access network to associate the mobile terminal (207) to its context received from the context transfer manager (200, 600).
5. The method according to claim 3 or 4, wherein the mobile terminal (207) includes the static or temporary identifier in the data transmitted to the new access network.
6. The method according to one of claims 1 to 5, further comprising the step of pre-configuring the mobile terminal (207) based on the context received from the context transfer manager (200, 600).
7. The method according to one of claims 1 to 6, further comprising the step of receiving status information from the mobile terminal (207) at the context transfer manager (200, 600), wherein the status information indicates the quality of service achieved in the current access network and/or indicates unsuccessful access attempts to at least one other access network than the current access network.
8. The method according to claim 7, wherein the step of determining neighboring access networks comprises adapting a selection algorithm used for determining the neighboring access networks (220, 221, 222, 620, 621, 622) based on the status information from the mobile terminal (207).
9. The method according to one of claims 1 to 8, further comprising the step of storing information on failed access attempts to access networks reported by the mobile terminal (207) at the context transfer manager (200, 600).
10. The method according to one of claims 1 to 9, wherein the capabilities and parameters associated to the mobile client comprise at least one of authentication, authorization and accounting parameters comprising static and/or temporary terminal identifiers, user preferences comprising the requirements for the terminal's communications, guaranteed service quality parameters, and/or access permissions to services, session data comprising encryption keys, seeds, ciphers and/or header compression information, terminal capabilities comprising information on the display, network interfaces, processing power, supported applications and/or video/audio codecs.

11. The method according to one of claims 1 to 10, wherein the capabilities and parameters of the neighboring access network comprise at least one of access technology specific attributes comprising a radio frequency, data rates, channels, and/or coding schemes, access network specific attributes comprising cryptographic capabilities of the respective access network, an access network identifier, supported quality of service mechanisms, available traffic classes, local services, information portals, and/or public transportation information.
12. The method according to one of claims 1 to 11, wherein the location information received by the context transfer manager (200, 600) is received in a paging message transmitted by the mobile terminal (207) or by a signalling message from an authentication server (206) in the home domain of the context transfer manager (200) after an authentication procedure performed between the mobile terminal (207) and the authentication server (206).
13. The method according to one of claims 1 to 12, wherein the location information is based on a geographical location obtained from a location determining device or a network related location determined based on a network address and/or network prefix.
14. The method according to one of claims 2 to 13, wherein the handover is performed upon having received context information from the context transfer manager (200, 600) related to the new access network.
15. The method according to one of claims 1 to 13, wherein a markup-language based data format is used to describe the context transferred from the context transfer manager (200, 600) to the plurality of access networks (220, 221, 222, 620, 621, 622) and the mobile terminal (207).
16. The method according to one of claims 1 to 14, further comprising the step of an authentication server (206, 606) in a neighboring access network receiving the context from the context transfer manager (200, 600) performing an registration and/or authentication procedure of the mobile terminal (207) with the neighboring access network using the received context information.

17. The method according to claim 16, wherein the registration and/or authentication procedure comprises registering a security key of the mobile terminal (207).
18. The method according to claim 17, further comprising the step of using by the mobile terminal (207) the registered security key for communication upon attaching to the neighboring access network in which the security key has been registered.
19. The method according to one of claims 1 to 18, wherein the context transfer manager (600) resides in a visited communication network.
20. The method according to claim 19, further comprising the step of transmitting by a context transfer manager (200) in a home communication network of the mobile terminal (207) data relevant for the generation of the at least one context to the context transfer manager (600) of the visited communication network.
21. The method according to one of claims 1 to 20, further comprising the step of receiving at a context manager (209, 210, 211, 609, 610, 611) in an access network the context from the context transfer manager (200, 600), wherein the context manager maintains no connection to another context manager in another access network.
22. A context transfer manager (200, 600) in a communication network comprising a plurality of heterogeneous access networks (220, 221, 222, 620, 621, 622), wherein a mobile terminal (207) is attached to one of the access networks, the context transfer manager (200, 600) comprising:
 - receiving means for receiving location information,
 - processing means (202, 602) for determining neighboring access networks for the mobile terminal (207) based on the location information,
 - context generation means (201, 601) for generating at least one context (304) for the neighboring access networks and the mobile terminal (207),
 - transmitting means for transmitting the respective context to each of the neighboring access networks and the mobile terminal (207),

wherein the context generation means (201, 601) is adapted to generate the at least one context (304) based on capabilities and parameters associated to the mobile terminal (207) and capabilities and parameters taking into account the respective access technology of the neighboring access network, and

wherein the context transfer manager (200, 600) common to the plurality of heterogeneous access networks (220, 221, 222, 620, 621, 622) in the communication network performs the context transfers related to said mobile terminal (207).

23. The context transfer manager (200, 600) according to claim 22, wherein the context transfer manager (200, 600) is adapted to perform the method according to one of claims 1 to 21.
24. A mobile terminal (207) in a communication network comprising a plurality of heterogeneous access networks (220, 221, 222, 620, 621, 622), wherein the mobile terminal (207) is attached to one of the access networks, the mobile terminal being adapted to perform one of the methods according to one of claims 1 to 21.